

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number  
WO 2004/007737 A2

(51) International Patent Classification<sup>7</sup>: C12P 3/00

(21) International Application Number: PCT/CA2003/001070

(22) International Filing Date: 16 July 2003 (16.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 2,394,073 16 July 2002 (16.07.2002) CA

(71) Applicant (for all designated States except US): CO2 SOLUTION INC. [CA/CA]; 1091 Boulevard Pie XI Sud, Val-Bélar, Québec G3K 1J9 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ANCTIL, Frederick

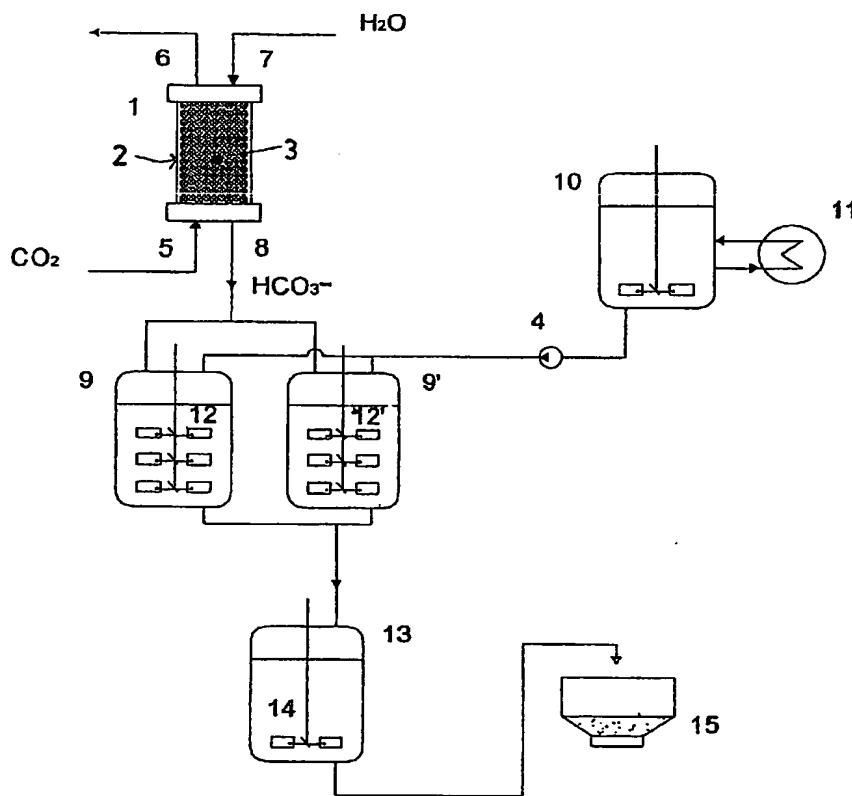
(74) Agent: ROBIC; 55 St-Jacques, Montreal Québec H2Y 3X2 (CA).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: A PROCESS AND AN APPARATUS FOR PRODUCING CALCIUM CARBONATE VIA AN ENZYMIC PATHWAY



(57) Abstract: The invention relates to a method for improving the production yield of precipitated calcium carbonate (PCC). The improvement resides in the use of an enzymatic bioreactor that supplies  $\text{HCO}_3^-$  into the reaction enabling to produce PCC without bubbling gaseous carbon dioxide in the aqueous solution. The present invention has an industrial applicability, namely in the pulp and paper industry.

WO 2004/007737 A2